

**KPK**  
K.P. Kauffman Co., Inc.

SUPERVISOR Kent Gilbert

Well: Hill #4-10

Road Dir: 47th Ave.at 394, .06S, .2E into

proposed

DATE: 10/7/2010

L. Desc: NWSW 2-4N-66W

County: Weld, CO

API#: 05-123-13593

Formation: Niobrara

Elevation GL 4705

Top potential proposed perfs: 7010-34 Bot proposed perfs: 7081-7114 224 total shots  
7010-34, 7081-7114, 4 spf, 60 deg. phas., 0.40" EHD

KB Meas: 4715

Sfc Casing: 8-5/8" 24# 360

Prod Casing: 4.5" 11.6# 7324

Codell

Cement top: -

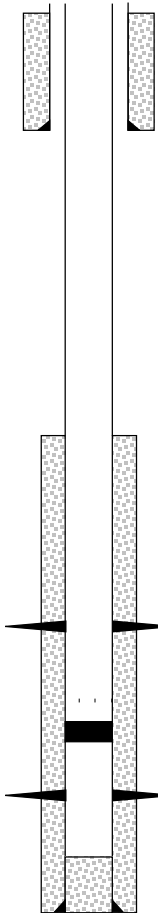
Top perf: 7207 Bot perf: 7222 72 total shots  
7207-7222, 4 spf, 60 deg. phas., 0.38" EHD, 11/10/99.

12 ft flag jt:

13 ft flag jt:

PBTD: 7290

TD: 7327



Surf. Csg: 360

| FRAC STRING CAPACITY:            |         |        |         |
|----------------------------------|---------|--------|---------|
|                                  | Footage | Bbls   | Gals    |
| KB adjust:                       | -10.00  | -0.155 | -6.51   |
| Top perf:                        | 7010.00 | 108.66 | 4563.51 |
| 4.5" 11.6# capacity to top perf: | 7000.00 | 108.50 | 4557.00 |

**Niobrara FRAC:**

ISIP: 3000-4000 psi, IFG: 0.800-900 psi/ft. Leak-off: expected 100-115 psi  
Pump FDP prepad at 25 bpm.  
Increase rate to 61.9 bpm during FR pad.  
To pump 90,500 to 100,710 gal SilverStim system containing  
250,000 to 300,000 lbs 20/40 mesh sand and 8,000 lbs 20/40 mesh SB Excell staged from  
1 ppg to 4 ppg. Flush at 3.5 ppg drop to top perf.  
FSDP: 3000-3500 psi.

Cement top: -

Niobrara  
Top potential proposed perfs: 7010-34  
Bot proposed perfs: 7081-7114

CIBP: 7160 (to set w/ 1 sk cmnt)

Codell

Top perf: 7207

Bot perf: 7222

PBTD: 7290

4.5 Casing: 7324

TD: 7327